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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

**“पुराने को छोड़ नये के तरफ”**

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10976 (1993): Wheelchairs – Nomenclature, terms and definitions [MHD 10: Medical Laboratory Instruments]

**“ज्ञान से एक नये भारत का निर्माण”**

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



**“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”**

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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पहिएदार कुर्सियाँ – नाम पद्धति, शब्द एवं परिभाषाएं  
( पहला पुनरीक्षण )

*Indian Standard*

WHEELCHAIRS — NOMENCLATURE, TERMS  
AND DEFINITIONS

( *First Revision* )

UDC 615'478'32 ∴ 001'4

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BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

## NATIONAL FOREWORD

This Indian Standard ( First Revision ) which is identical to ISO 6440 : 1985 'Wheelchairs — Nomenclature, terms and definitions', issued by the International Organization for Standardization ( ISO ) was adopted by the Bureau of Indian Standards on the recommendations of the Artificial Limbs, Rehabilitation Appliances and Equipment for the Disabled Sectional Committee ( MHD 10 ) and approval of the Medical Equipment and Hospital Planning Division Council.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are however not identical to those used in the Indian Standards. Attention is particularly drawn to the following:

Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

The technical committee responsible for the preparation of this standard has reviewed the provisions of following international standards referred to in this adopted standard and has decided that they are acceptable for use in conjunction with this standard.

ISO 7176-5 : 1986 wheelchairs — Part 5 : Determination of overall dimensions, mass and turning space

ISO 7176-7 Wheelchairs — Part 7 : Determination of seating dimensions — Definitions and 'measuring methods'

ISO 7193 : 9185 Wheelchairs — Maximum overall dimensions

## ***Indian Standard***

# WHEELCHAIRS — NOMENCLATURE, TERMS AND DEFINITIONS

*( First Revision )*

### 1 Scope and field of application

This International Standard defines the basic elements of wheelchairs (manual, electric and any others) and gives terms and definitions for these elements in an illustrated glossary. It also illustrates the dimensions commonly used to describe wheelchair physical characteristics.

Wheelchairs can be equipped with many accessories and the list given in this International Standard is not exhaustive.

### 2 References

ISO 7176/5, *Wheelchairs — Part 5 : Determination of overall dimensions, mass and turning space.*

ISO 717617, *Wheelchairs — Part 7 : Determination of seating dimensions — Definitions and measuring methods.*<sup>1)</sup>

ISO 7193, *Wheelchairs — Maximum overall dimensions.*

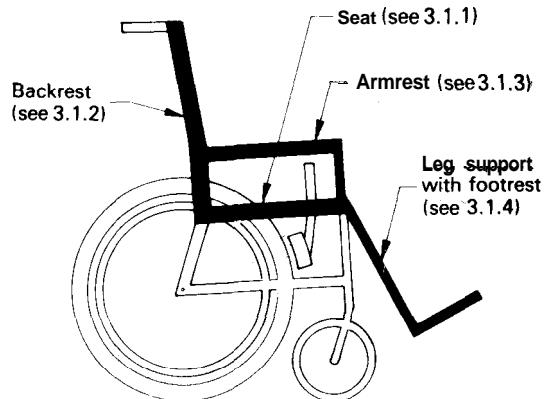
### 3 Definitions

**3.0 basic elements of the wheelchair :** The wheelchair comprises

- body support system
- driving system
- wheels
- frame

**3.1 body support system :** Those parts of the wheelchair which directly support or contain the body of the user.

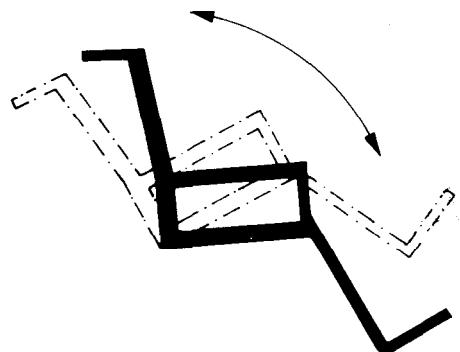
Parts and variations are defined and illustrated as follows :



Accessories are defined and illustrated in 3.1.5.

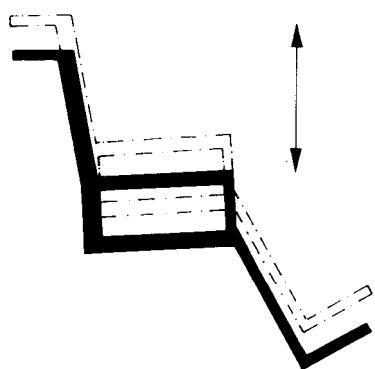
#### 3.1.0 Body support variations

3.1.0.1 body support system with adjustable angle :



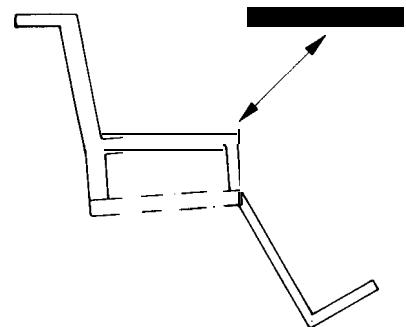
<sup>1)</sup> At present at the stage of draft.

3.1.0.2 body support system that is vertically adjustable :

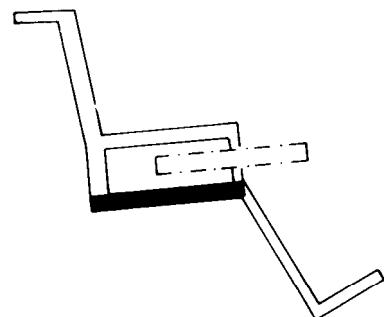


3.1.1 Seat variations

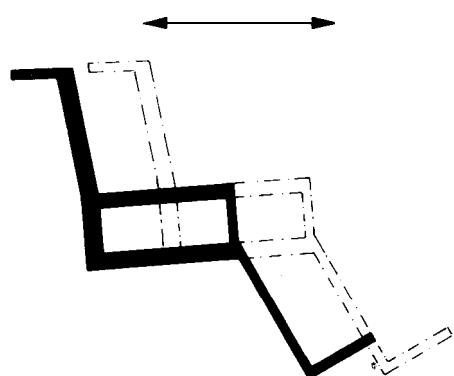
3.1.1.1 detachable seat :



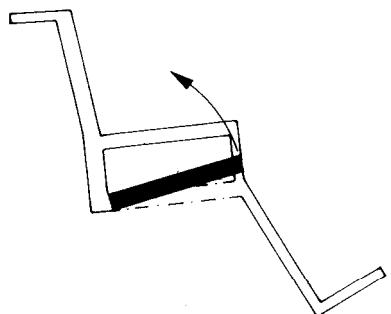
3.1.1.2 adjustable seat, vertically or horizontally :



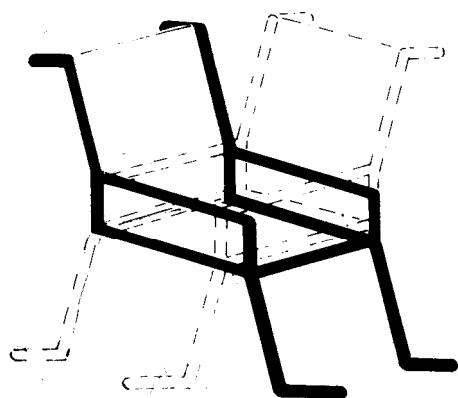
3.1.0.3 body support system that is horizontally adjustable :



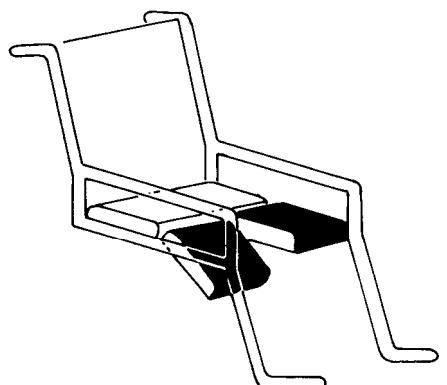
3.1.1.3 seat with adjustable angle (may also be adjustable vertically or horizontally) :



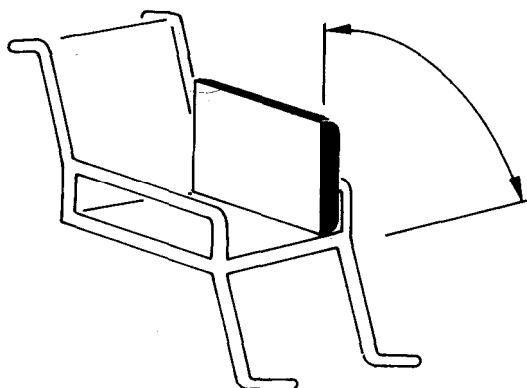
3.1.0.4 pivoted body support system :



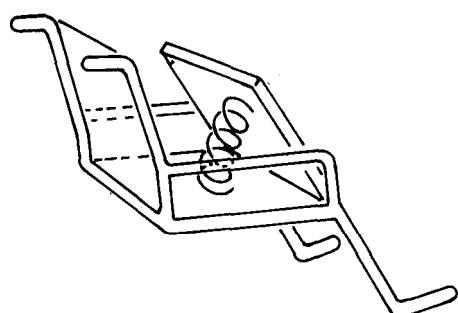
3.1.1.4 divided (coxit) seat :



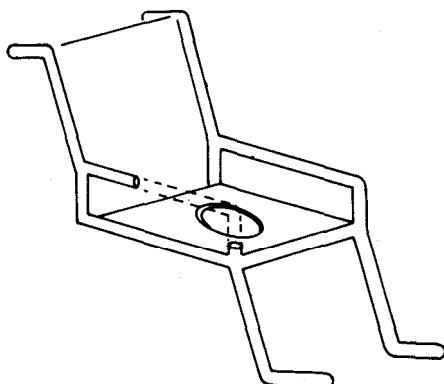
## 3.1.1.5 folding seat :



## 3.1.1.6 spring seat :

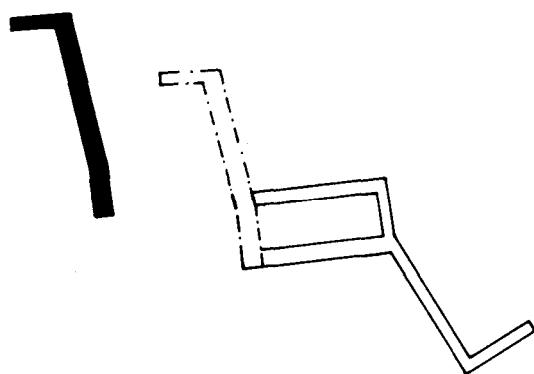


## 3.1.1.7 toilet seat :

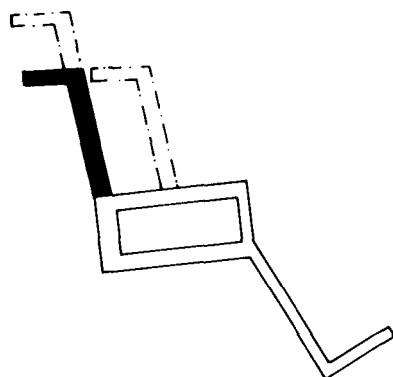


## 3.1.2 Backrest variations

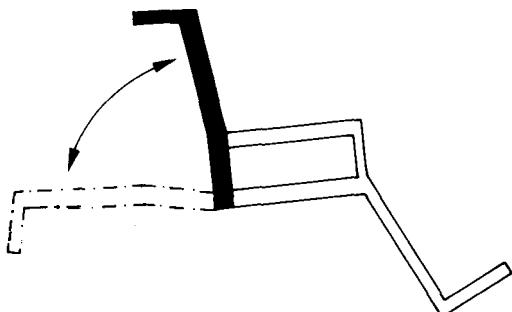
## 3.1.2.1 detachable backrest :



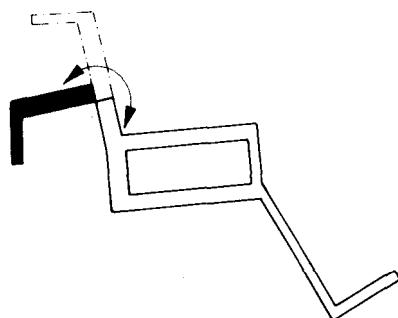
## 3.1.2.2 adjustable backrest, vertically or horizontally :



## 3.1.2.3 backrest with adjustable angle (may also be adjustable vertically or horizontally) :

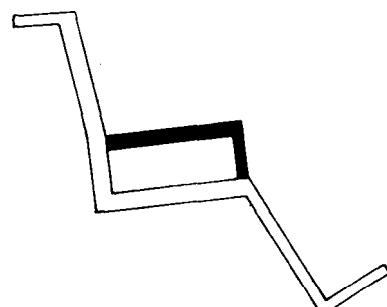


## 3.1.2.4 folding backrest :

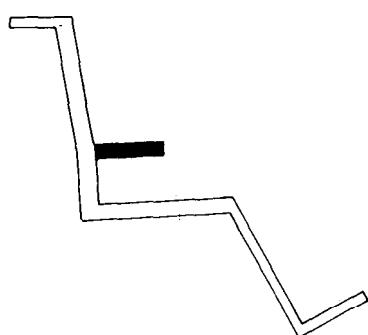


## 3.1.3 Armrest variations (with or without clothes protectors)

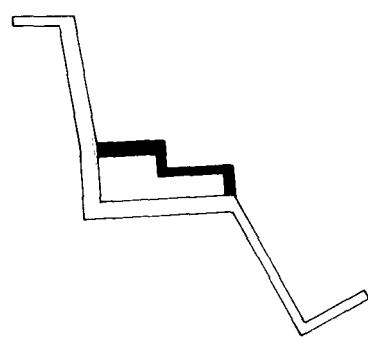
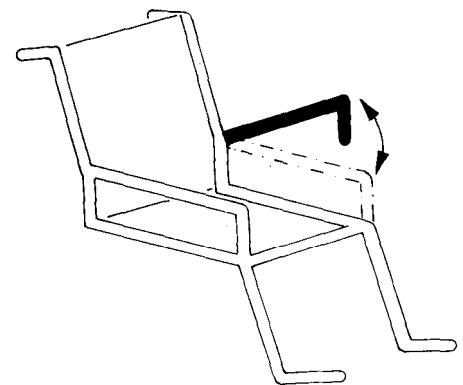
## 3.1.3.1 full length armrest, fixed or detachable :



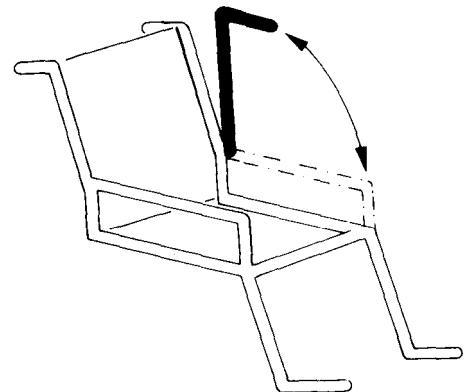
3.1.3.2 desk armrest, fixed or detachable :



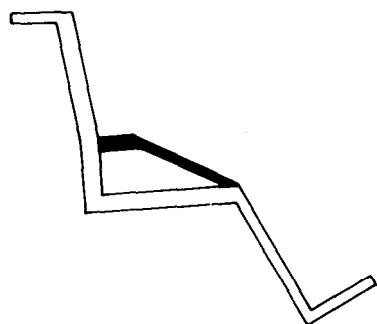
3.1.3.5 pivoting armrest, full length or desk :



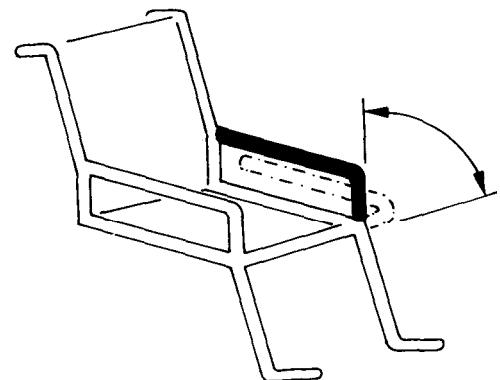
3.1.3.6 lifting armrest, full length or desk :



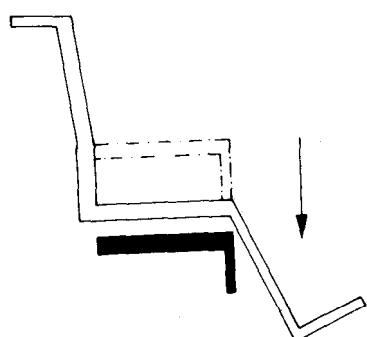
3.1.3.3 inclined armrest, fixed or detachable :



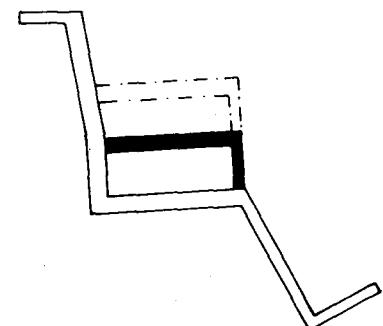
3.1.3.7 side-folding armrest, full length or desk :

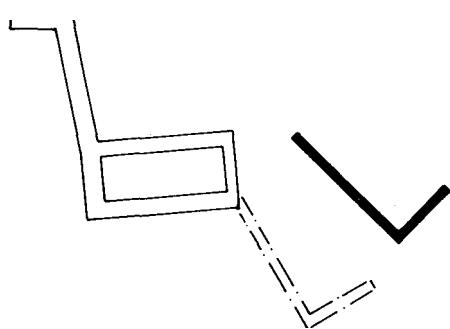
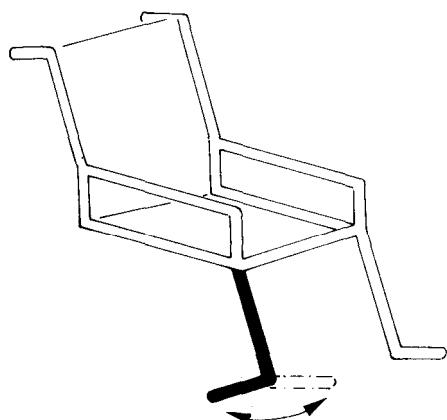
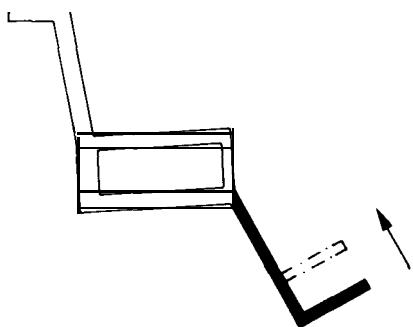
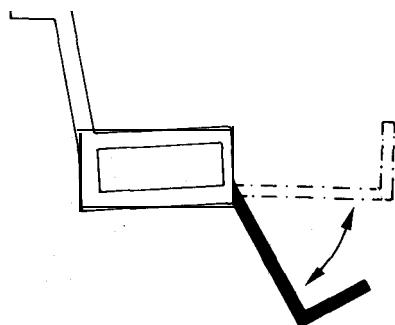
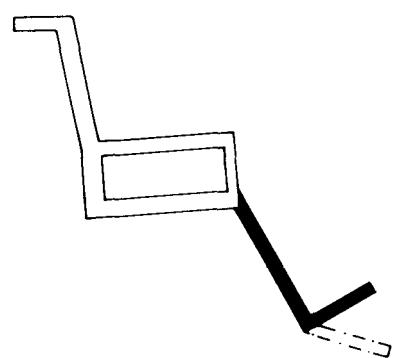
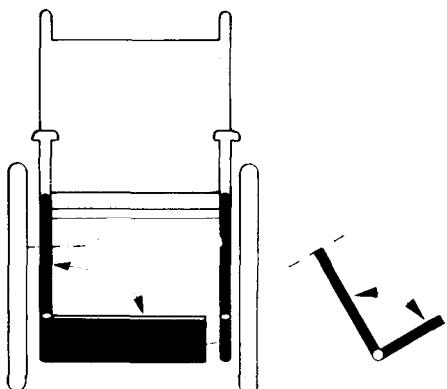
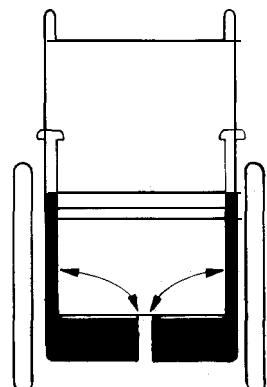


3.1.3.4 armrest that can be lowered :



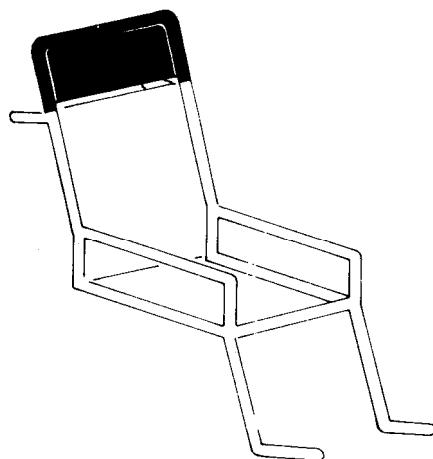
3.1.3.8 vertically adjustable armrest, full length or desk :



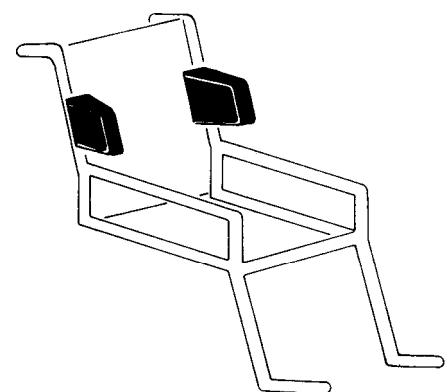
**3.1.4 Leg support variations****3.1.4.1 detachable leg support :****3.1.4.2 pivoted leg support :****3.1.4.3 leg support with adjustable length :****3.1.4.4 leg support with adjustable angle :****3.1.4.5 leg support with adjustable footrest :****3.1.4.6 folding whole footrest :****3.1.4.7 folding divided footrest :**

**3.1.5 Accessories**

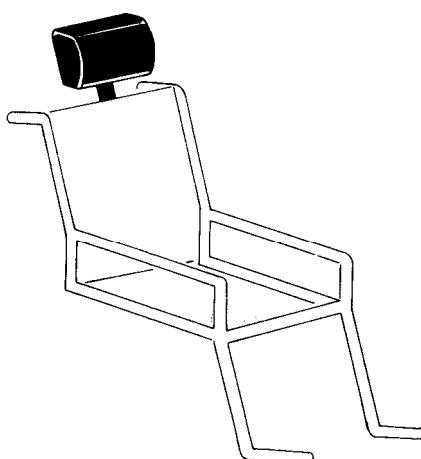
**3.1.5.1 backrest extension :**



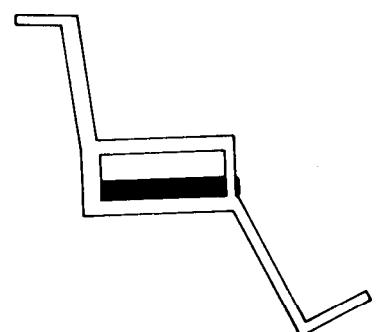
**3.1.5.4 body side support:**



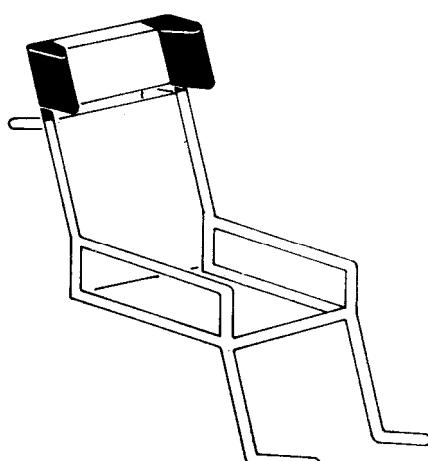
**3.1.5.2 headrest :**



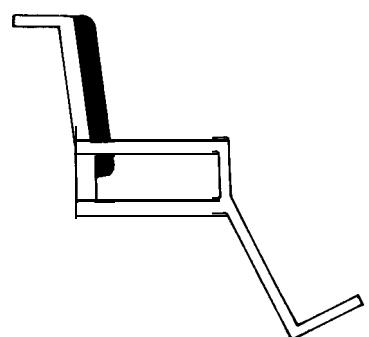
**3.1.5.5 seat cushion :**



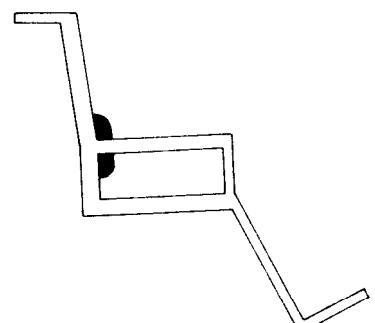
**3.1.5.3 head side supports:**



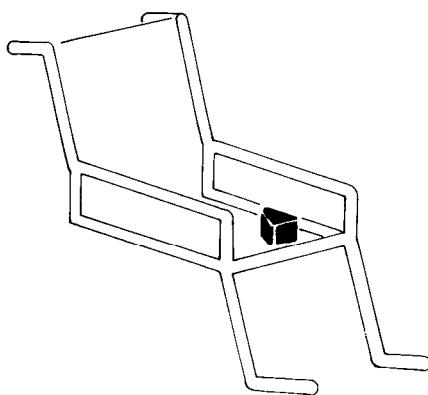
**3.1.5.5 backrest cushion :**



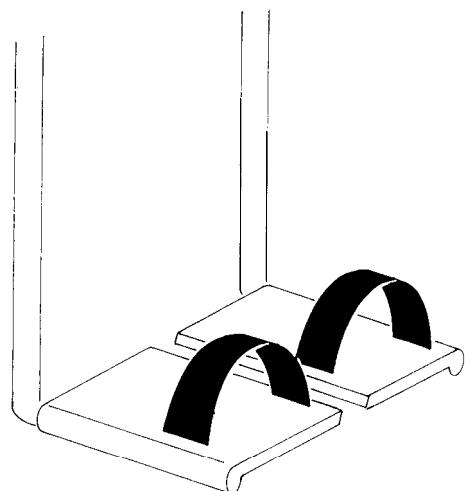
**3.1.5.7 lumbar support:**



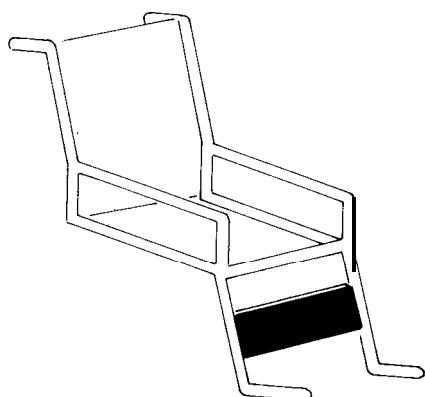
3.1.5.8 leg dividing support :



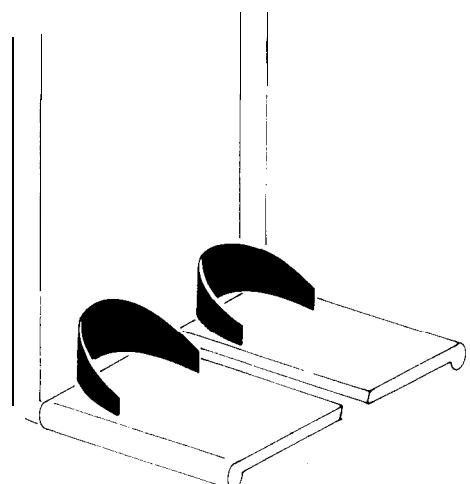
3.1.5.12 toe strap :



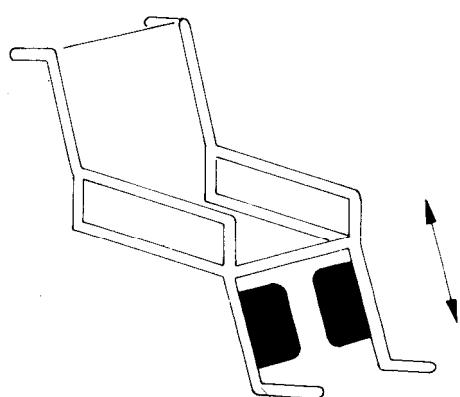
3.1.5.9 whole calf support :



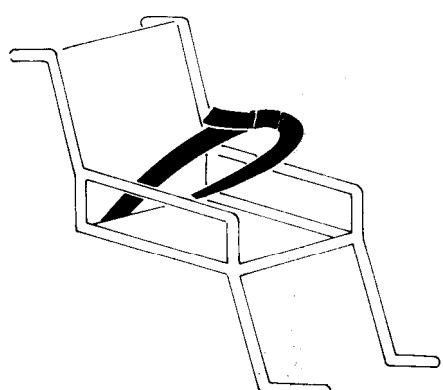
3.1.5.13 heel support :



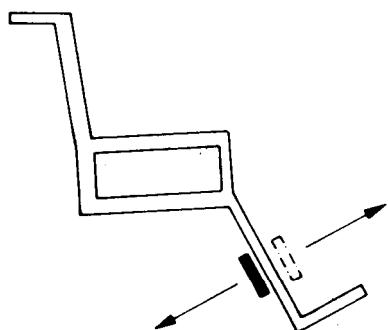
3.1.5.10 divided calf support (adjustable in height) :



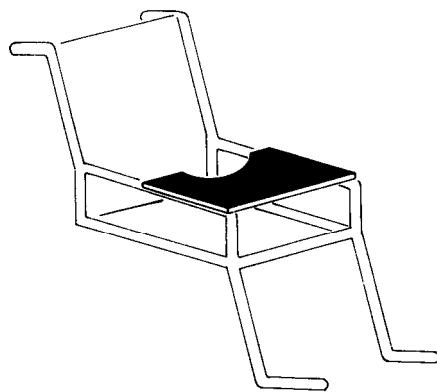
3.1.5.14 seat belt :



3.1.5.11 calf support adjustable in depth :



3.1515 table :



**3.2 driving system** : Combination of the parts of the wheelchair that are needed for transportation. This combination comprises a propulsion system, a steering system and a braking system (push handles and tipping levers are also included).

**3.2.1 propulsion system** : Combination of the parts of the wheelchair that are needed for propulsion. This combination comprises a control gear, a transmission and driving wheels.

**3.2.1.1 propulsion control gear<sup>1)</sup>**: The part of the propulsion system that is directly actuated by the driver in order to provide the transmission with the power needed for propulsion. The power can be the driver's muscular power or another form of power controlled by the driver, or a combination of both.

**3.2.1.2 propulsion transmission<sup>11</sup>** : The combination of components that serves to transmit power from the control gear to the driving wheels. The transmission can be mechanical, hydraulic, pneumatic, electric or any combination of these. In those cases where the propulsion is achieved by means of power other than the driver's muscular power, the housing for such other power is to be considered as a part of the transmission.

**3.2.1.3 driving wheels**

See 3.3.1.

**3.2.2 steering system** : Combination of the parts of the wheelchair that are needed for steering. This combination comprises a control gear, a transmission and steering wheels.

**3.2.2.1 steering control gear<sup>1)</sup>**: The part of the steering system that is directly actuated by the driver in order to provide the transmission with the power needed for steering.

See also 3.2.1.1.

**3.2.2.2 steering transmission<sup>1)</sup>**: The combination of components that serves to transmit power from the control gear to the steering wheels.

See also 3.2.1.2.

**3.2.2.3 steering wheels**

See 3.3.2.

**3.2.3 braking system** : Combination of the parts of the wheelchair that are needed for braking. This combination comprises a control gear, a transmission and wheelbrakes.

**3.2.3.1 braking control gear<sup>1)</sup>**: The part of the braking system that is directly actuated by the driver in order to provide the transmission with the power needed for braking.

See also 3.2.1.1.

**3.2.3.2 braking transmission<sup>1)</sup>**: The combination of components that serves to transmit power from the control gear to the wheel brake.

See also 3.2.1.2.

**3.2.3.3 wheelbrake** : The parts of the wheelchair between which the braking force is developed. The wheelbrake can be :

— a friction brake, where the force is developed by friction between parts of the wheelchair that are movable in relation to each other: the friction force may be generated by mechanical, hydraulic or electrical means, or by any combination of these;

— an electric brake, where the force is created by electromagnetic action on parts of the wheelchair that are movable in relation to each other but not in contact with each other.

**3.2.3.3.1 service brake** : The braking system that the driver normally uses to reduce the speed of the wheelchair or stop it completely.

**3.2.3.3.2 parking brake** : The braking system that is intended for keeping the wheelchair stationary on sloping ground whether or not the wheelchair is occupied.

**3.3 Wheels**

**3.3.1 driving wheel** : A wheel that is connected to the driving system and when in contact with the underlay develops the propelling force.

**3.3.2 steering wheel** : A wheel that is connected to the steering system and when in contact with the underlay governs the driving direction.

<sup>1)</sup> The control gear for propulsion, steering and braking as well as the transmission for propulsion, steering and braking are often combined in one unit.

**3.3.3 castor wheel :** A wheel that can pivot but is not intended to govern the driving direction.

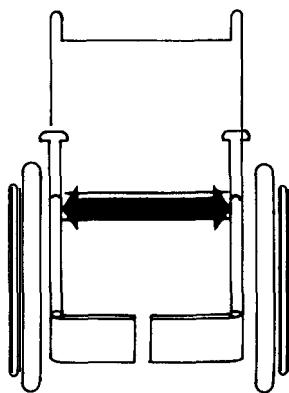
**3.3.4 supporting wheel :** A wheel that cannot pivot and which is not intended to develop propelling forces or govern the driving direction.

**3.4 frame :** The frame unites and supports the other parts of the wheelchair. Seat-frame-backrest etc. could form, or be combined into, one unit or consist of separate parts.

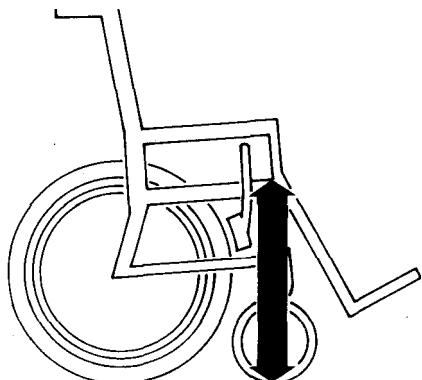
**3.5 dimensions :** Dimensions commonly used to define a wheelchair include seat width, seat height, seat depth, backrest height, armrest height, width between armrests, overall width, overall height, overall length, overall width folded, overall height folded.

These dimensions are illustrated as follows :

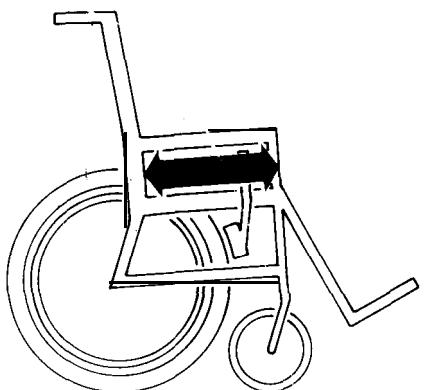
**3.5.1 seat width<sup>1)</sup> (at seat level) :**



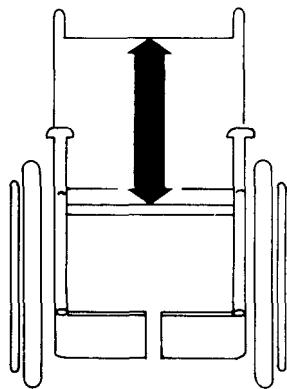
**3.5.2 seat height<sup>1)</sup> (from floor) :**



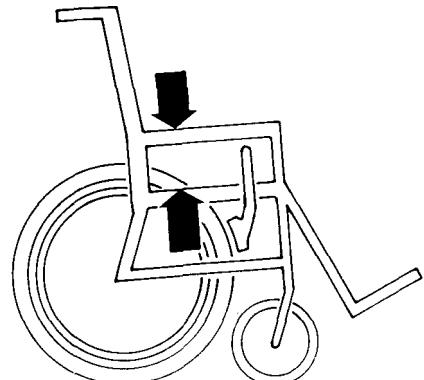
**3.5.3 seat depth<sup>1)</sup> (upholstery) :**



**3.5.4 backrest height<sup>1)</sup> (upholstery) :**

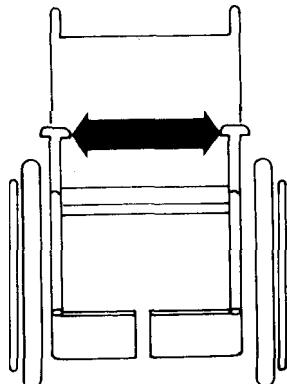


**3.5.5 height of armrests<sup>1)</sup> :**

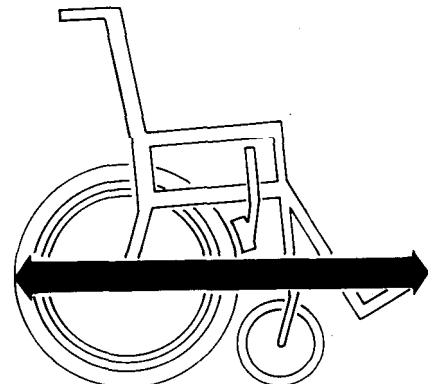


<sup>1)</sup> For the determination of seating dimensions, see ISO 7176/7.

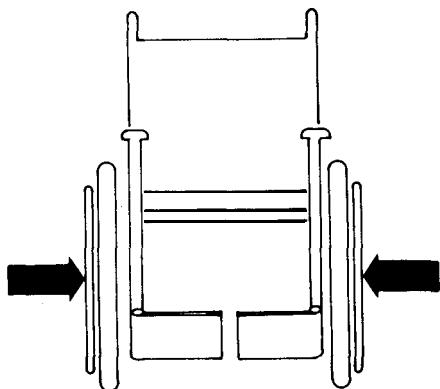
**3.5.6 width between armrests<sup>1)</sup>:**



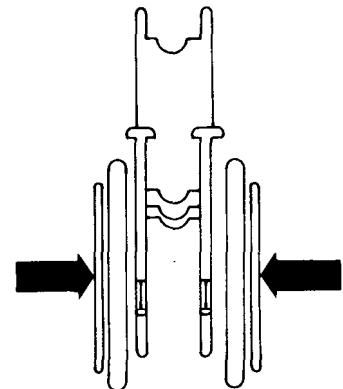
**3.5.9 overall length\*):**



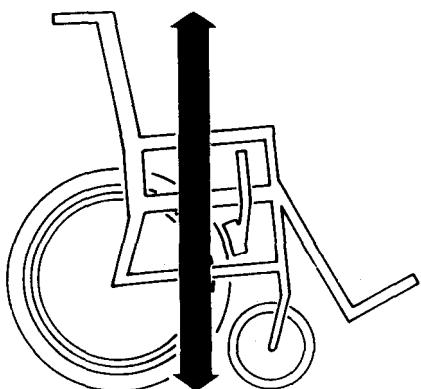
**3.5.7 overall width<sup>2)</sup>:**



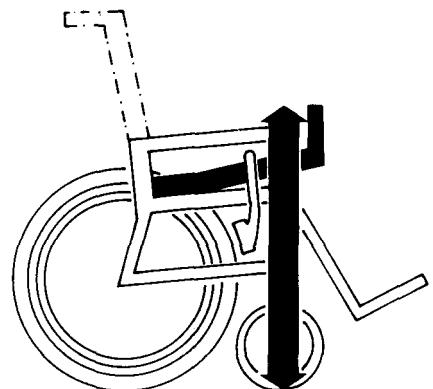
**3.5.10 overall width folded\*):**



**3.5.8 overall height\*):**



**3.5.11 overall height folded\*):**



1) For the determination of seating dimensions, see ISO 7176/7.

2) See also ISO 7176/5 and ISO 7193.

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Doc : No. MHD 10 ( 2290 )

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